L 45793-66

ACC NR: AP6030154

2

resonator mirror burnout were recorded. "The authors wish to thank B. M. Vul and A. P. Shotov for their valuable advice and discussions." Orig. art. has: 5 figures, 3 formulas, and 1 table.

[03]

SUB CODE: 20 / SUBM DATE: 25Jun65 / ORIG REF: 003 / OTH REF: 005 / ATD PRESS: 5085

Card 2/2   pb

IVANOV, V.S., gornyy inzh.; MYSINA, L.G., inzh.-geofizik

Seismoacoustic activities of coal seams serving as indices
of gas and coal outburst danger. Ugol' Ukr. 6 no.8:14-15
Ag '62.   (MIRA 15:11)
                        (Mine gases)
                (Seismometry—Observations)

KONSTANTINOVA, A.G.; MYSINA, L.G.; IVANOV, V.S.

Characteristics of the seismoacoustic processes accompanying sudden ejections of coal and gas during well boring. Izv. AN SSSR. Ser. geofiz. no.11:1676-1683 N '63. (MIRA 16:12)

1. Institut gornogo dela im. A.A.Skochinskogo.

IVANOV, V.S., gornyy inzh.

Study of the relation between the diameter of the charge and the effectiveness of blasting in a layered medium. Vzryv. delo no.53/10:76-89 '63.   (MIRA 16:8)

1. Institut gornogo dela im. G.A. TSulukidze AN GruzSSR.
                    (Blasting)

DEMIDYUK, G.P., kand. tekhn. nauk; IVANOV, V.S., gornyy inzh.

Effect of the shape of the individual charge on the crushing
of a hard medium by blasting. Varyv. delo no.53/10:47-58 '63.
(MIRA 16:8)

1. Institut gornogo dela im. A.A. Skochinskogo (for Demidyuk).
2. Institut gornogo dela AN Gruzinskoy SSR (for Ivanov).
(Blasting)

ANTSYFEROV, M.S., kand. fiz.-matem. nauk; IVANOV, V.S., inzh.;
    SHEVCHENKO, L.N., inzh.; KAMNEVA, T.N., red.

    [PGI geophone and methods for its use in hole prospect-
    ing] Geofon PGI i metodika ego primeneniia dlia poiska
    skvazhiny. Moskva, In-t gornogo dela, 1963. 17 p.
                                    (MIRA 17:8)

KONSTANTINOVA, A.G.; MYSINA, L.G.; IVANOV, V.S.

Analysis of seismoacoustic processes accompanying strong
sudden ejections of coal and gas. Izv. AN SSSR. Fiz. zem.
no.11:85-89 '65.
(MIRA 18:12)

1. Institut gornogo dela imeni A.A. Skochinskogo. Submitted
June 26, 1964.

IVANOV, V.S.

L 10425-66   EWT(1)/EWA(h)   GW
AM5023902   BOOK EXPLOITATION   UR/
                                                                                     534.647:622

Akademiya nauk SSSR.   Institut gornogo dela

The use of seismoacoustic methods in mining (Primeneniye seysmoakusti-
    cheskikh metodov v gornom dele) Ed. by M. S. Antsyferov. Moscow,
    Izd-vo "Nauka," 1964.   186 p. illus.   Errata printed on the back
    cover.   1300 copies printed.

TOPIC TAGS: mining engineering, seismic prospecting, seismic instru-
    ment, phonon acoustics, seismoacoustic pulse

PURPOSE AND COVERAGE: This is a collection of articles summarizing
    the results of work done by the Laboratory of Geophysical Research
    of the Mining Institute imeni A. A. Skochinskiy and the Scientific
    Seismoacoustic Station of the Donetskiy Sovnarkhoz. The research
    was basically conducted at the coal mines of the Donet Basin, where
    dangerous sudden outbursts of coal and gas occur. The authors give
    data on the design and manufacture of various seismoacoustic in-
    struments, used in both laboratory and field investigations. Re-
    sults of these investigations are analyzed, emphasizing their

Card   1/5

L 10425-66
AM5023902

importance for the theory of dynamic phenomena in mines and for the prognosis of the danger zones of possible sudden outbursts. The book is of interest to miners and geophysicists concerned with the application of geophysical methods in coal and ore mines.

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AH5023902

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of investigating the effect of an explosion on the roof of a
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SUB CODE: GO, ES, GP/   SUBMITTED: 26Nov64   NO REF SOV: 113

OTHER: 005
Card 5/5

L 22991-66   EWT(m)/EWP(w)/EWA(d)/T/EWP(t)   IJP(c)   JD/HW/HG

ACC NR: AT6012394   SOURCE CODE: UR/0000/65/000/000/0221/0228

AUTHOR: Kornilov, I. I. (Doctor of chemical sciences, Professor);
Ivanova, V. S.; Markovich, K. P.; Fridman, Z. G.

ORG: none

TITLE: Heat resistance of AT3 titanium alloy after standard heat
treatment and after mechanothermal heat treatment

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu
titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov
(New research on titanium alloys); trudy soveshchaniya. Moscow, Izd-vo
Nauka, 1965, 221-228

TOPIC TAGS: titanium, titanium alloy, aluminum containing alloy,
chromium containing alloy, heat resistant alloy, alloy heat treatment,
mechanothermal treatment, alloy creep resistance, alloy rupture
strength / AT3 alloy

ABSTRACT: The heat resistance of AT3 titanium alloy (2.7% Al, 0.6% Cr,
0.3% Fe, 0.36% Si, 0.01% B) has been tested at 350 and 500C. After
standard heat treatment (annealing at 880C followed by air cooling) the
structure of the alloy consisted of the α-phase and traces of the
β-phase. The creep rate at 350C changed relatively little with a

Card 1/2   UDC: 669.295.001.5

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ACC NR: AT6012394   2

change in stress. The 10,000 hr rupture strength was 56 kg/mm^2, i.e.,
about 90% of the tensile strength. Prolonged service at 350C affects
neither the structure nor the properties of the alloy. For instance,
the elongation dropped from the initial 15% to 13% after 5454 and 5215
hr tests under a respective stress of 15 and 37 kg/mm^2. The high rup-
ture strength, structural stability, high oxidation resistance, and
high ductility make AT3 alloy a promising structural material for pro-
longed operation at 350—450C. At 500C, however, the alloy softens
rapidly. The 500 hr rupture strength was only 22 kg/mm^2. Microscopic
examination showed that the softening of AT3 alloy at 500C was due to
precipitation of Ti_5Si_3 compound (the γ-phase) from the solid solution
along the active slip planes. Four cycles of mechanothermal treatment
(24 hr at 500C under a stress of 12 kg/mm^2 followed by 24 hr without
stress at the same temperature) prolonged the second creep stage at
500C by nearly five times and more than doubled the rupture life. In
alloy subjected to MTT and subsequent creep tests, the precipitated
γ-phase particles were more uniformly distributed over the grain
volume. Orig. art. has: 6 figures and 2 tables.   [MS]

SUB CODE: 11, 13/ SUBM DATE: 02Dec65/ ORIG REF: 006/ OTH REF: 002
ATD PRESS: 4238

Card 2/2

IVANOV, V.S., inzhener.

The new DG 1/15 single bucket excavator. Mekh,stroi. 4 no.8:1-3
Ag '47.   (MLRA 9:2)

1.Glavstroymekhanizatsiya Minstroydormash.
              (Excavating machinery)

IVANOV, V. S.

20661 Ivanov, V.S., Berkman, I.L. i Merenkov, A.S. Rezul'taty Kontrol'nykh ispytaniy ekskavatora E-1003. Mekhanizatsiya stroit-va, 1949, No. 6, s. 7-10

SO: LETOPIS ZHURNAL STATEY-Vol. 28, Moskva, 1949

GURVICH, I.G., IVANOV, V.S.

    Electrometric amplifier with 100% feedback. Zav.lab. 21 no.3:
365-366 '55.   (MLRA 8:6)

    1. Dagestanskiy filial Akademii nauk SSSR.
        (Amplifiers, Electron-tube)

IVANOV, V.S., inzhener.

Production of excavators and cranes used in construction during
the 40 years of the Soviet regime. Stroi.i dor.mashinostr. 2
no.10:19-22 O '57.   (MIRA 10:11)
            (Excavating machinery)   (Cranes, derricks, etc.)

IVANOV, V.S. (Leningrad)

Static problem of an elastic circular cylindrical shell having
an initial bend. Prikl.mat. i mekh. 22 no.5:687-690 S-O '58.

(MIRA 11:11)

(Elastic plates and shells)

IVANOV V.S.

127-58-1-9/23

AUTHORS: Karbelashvili, O.D., Candidate of Technical Sciences, and
Ivanov, V.S., Mining Engineer

TITLE: Improvement of Drilling and Blasting Work in the Mining of
Thin Veins (Usovershenstvovaniye buro-vzryvnykh rabot pri
razrabotke tonkikh zhil)

PERIODICAL: Gornyy Zhurnal, 1958, Nr 1, pp 35-37 (USSR)

ABSTRACT: Between 1954 and 1956, the authors carried out experiments
to find the optimum parameters of drilling and blasting
operations in the mines of the Kutaisskiy litoponnyy zavod
(Kutaisi Lithopone Plant). The barite veins mined varied
from a few cm to 0.6 m thick and had a hardness of 4 to 5,
according to Professor Protod'yakonov's classification. The
drilling was performed with RP-17 drilling machines under
5 atm pressure of compressed air. Blasting was performed
with ammonite #6 in 18, 20, 22 and 27 mm diameter cartridges.
Results of the experiments are presented in two tables, and
the conclusion is drawn that explosive cartridges with a
diameter not exceeding 22 mm should be used to reduce the

Card 1/2   consumption of explosives and the content of impurities in

127-53-1-9/23

Improvement of Drilling and Blasting Work in the Mining of Thin Veins

the ore. This will also increase drilling efficiency and reduce the consumption of drilling steel and hard alloys. The article contains 2 tables.

ASSOCIATION: Institut metalla i gornogo dela AS Cruz SSR (Institute of Metal and Mining of the AS Georgian SSR)

AVAILABLE: Library of Congress

Card 2/2   1. Mining engineering-USSR   2. Explosives-Applications
            3. Drilling machines-Applications   4. Drilling machines-Equipment

IVANOV, V.S., inzh.

Development of the production of excavators and automotive cranes.
Stroi. i dor. mashinostr. 3 no. 6:11-14 Je '58.   (MIRA 11:7)
                    (Excavating machinery)
                    (Cranes, derricks, etc.)

BARSUKOV, F.A., inzh.; IVANOV, V.S., inzh.

     Safety of underground blasting operations. Bezop.truda v
     prom. 3 no.12:11-13 D '59.   (MIRA 13:4)
         (Blasting--Safety measures)

IVANOV, V.S.

        Testing small, high-capacity cyclone launders. Prom. vent.
        no.9:63-68 '6C.   (MIRA 16:11)

ANTSYFEROV, Mikhail Sergeyevich; KONSTANTINOVA, Aleksandra Georgiyevna;
PEREVERZEV, Leonid Borisovich. Prinimal uchastiye IVANOV, V.S.
SKOCHINSKIY, A.A., akademik, otv.red.; GRIGOR'YEV, Ye.N., red.
izd-va; SIMKINA, G.S., tekhn.red.

[Seismoacoustic investigations in coal mines] Seismoakusticheskie
issledovaniia v ugol'nykh shakhtakh. Moskva, Izd-vo Akad.nauk
SSSR, 1960. 103 p.   (MIRA 13:11)
  (Coal mines and mining--Accidents)   (Seismometry)

VOLKOV, D.P.; CHANGLI, I.I., inzh., kand.ekonom.nauk, red.; IVANOV, V.S.,
inzh., retsenzent; DANILOV, L.N., red.izd-va; SMIRNOVA, G.V.,
tekhn.red.

[Earthmoving machinery] Mashiny dlia zemlianykh rabot. Red.I.I.
Changli. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry,
1960. 111 p.   (MIRA 13:7)
             (Earthmoving machinery)

IVANOV, V.S.

Study of the effect of the diameter of an elongated charge on
the result of blasting with low values of the line of least
resistance. Nauch. soob. IGD 12:107-118 '61.   (MIRA 15:9)
(Blasting)

26.2160
10 1410

36707

S/147/62/000/001/009/015
E191/E135

AUTHOR: Ivanov, V.S.

TITLE: On the relationship between the total pressure
recovery coefficient σ and the velocity
coefficient φ in the supersonic portion of a Laval
nozzle with full or partial expansion of the gas in
the nozzle

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Aviatsionnaya tekhnika, no.1, 1962, 75-81

TEXT: The rate of flow of a gas through a supersonic
nozzle depends on the area of the critical cross-section and the
gas properties there. The supersonic portion affects only the
pressure and velocity at the nozzle exit. In the flow of gas
through the supersonic nozzle with over-expansion, uniform static
pressure (for example, the pressure of the medium into which the
flow emerges) is established at different cross-sections along
the length of the supersonic portion. Both with full and partial
expansion of gas in a supersonic nozzle, the condition that the

Card 1/3

On the relationship between the ...   S/147/62/000/001/009/015
                                        E191/E135

rate of flow does not depend on the magnitude of the losses in
the divergent part permits establishing a relationship between
the pressures at the nozzle exit in both the absence and the
presence of losses in the supersonic portion and, more generally,
the relation between the pressure recovery coefficient and the
velocity coefficient. In the analysis it is assumed that the
jet restriction coefficient both at the nozzle exit and in the
critical cross-section is unity, whether or not there are losses
in the supersonic portion. A simple derivation yields the
desired relationship. This is plotted in several families of
curves for three values of the adiabatic exponent, with either
the exit Mach number or the area ratio (exit area to critical
area) as parameters. The ratio of exit pressures in a Laval
nozzle in the presence and absence of losses in the supersonic
portion for either full or partial expansion of the gas is
derived. The same relationships for a Laval nozzle are also
derived in a different way by using the momentum equation.
There are 7 figures.

Card 2/3

On the relationship between the ...   S/147/62/000/001/009/015
E191/E135

ASSOCIATION: Kafedra georeticheskoy mekhaniki i gidroaero-
mekhaniki, Kazanskiy gosudarstvennyy universitet
(Department of Theoretical Mechanics and
Hydroaeromechanics, Kazan' State University)

SUBMITTED: May 11, 1961

Card 3/3

LINDORF, L.S.; FUFURIN, P.N.; ULITSKIY, M.S.; USTINOV, P.I.;
   ZEYLIDZON, Ye.D.; MININ, G.P.; KOTS, A.Ya.; KHAVIN, N.Z.;
   MURAVLEVA, N.V.; LIBERMAN, A.Ya.; BARANOV, B.M.;ZVENIGORODSKIY,
   I.S.; IVANOV, V.S.; IOFFE, F.Ye.; BURLAKOV, B.M.; MIRENBURG,
   L.A.; FAYERMAN, A.L., red.; BORUNOV, N.I., tekhn. red.

[Study manual on the technical operation of electric networks
and power plants; electrical section of electric power plants
and electric power distribution networks]Posobie dlia izuche-
niia pravil tekhnicheskoi ekspluatatsii elektricheskikh stantsii
i setei; elektricheskaia chast' elektrostantsii i elektricheskie
seti. Moskva, Gosenergoizdat, 1962. 558 p.   (MIRA 15:8)
               (Electric power plants—Handbooks, manuals, etc.)
            (Electric power distribution—Handbooks, manuals, etc.)

BARON, L.I., prof., doktor tekhn.nauk; IVANOV, V.S., gornyy inzhener

Laboratory studies of the breaking of a medium in detonating
charges having different diameters. Vzryv. delo no.50/7:63-70
'62.   (MIRA 15:9)

1. Institut gornogo dela imeni A.A. Skochinskogo.
                        (Blasting—Models)

ACCESSION NR: AR4042228   S/0124/64/000/006/B054/B054

SOURCE: Ref. zh. Mekhanika, Abs. 6B330

AUTHOR: Ivanov, V. S.

TITLE: Calculation of coefficient of contraction of stream, flowing from an infinite frustum of a cone

CITED SOURCE: Sb. Itog Nauchn. konferentsiya Kazansk. un-ta za 1962 g. Sekts. matem. n. Kazan', Kazansk, un-t, 1963, 185-188

TOPIC TAGS: cone, infinite frustum, stream outflow, Poisson equation

TRANSLATION: Considers axisymmetric jet problem of outflow of a stream of ideal fluid from an infinite frustum of a cone. Author applies the Garabedian method (P. R. Garabedian, Pacif. J. Math., 1956, 6, No 4, 611 - 684 - Journal of Abstracts, Mechanics, 1962, 2B389). Solution of equation for stream function Ψ, generalized

Card 1/2

ACCESSION NR: AR4042228

for a space of $\epsilon+2$ measurements

$$\Delta \Psi - \frac{\epsilon}{y} \Psi_y = 0$$

on the condition of constancy of pressure on the free surface

$$\frac{1}{y^\epsilon} \frac{\partial \Psi}{\partial n} = 1$$

is sought in the form

$$\Psi(x, y; \epsilon) = y^\epsilon [U_0(x, y) + \epsilon U_1(x, y) + \epsilon^2 U_2(x, y) + \ldots]$$

Author arrives at a recurrent system of Poisson's equation for U_j, where $j = 0$, 1, 2,... When the generatrix of the cone forms with the axis of symmetry an angle equal to $\pi/4$, there is obtained in the first approximation (at $\epsilon = 1$) for the compressibility factor of the stream the value of $c_0 = 0.68956$.

SUB CODE: MA   ENCL: 00

Card   2/2

ACCESSION NR: AP4009649   S/0147/63/000/004/0103/0111

AUTHOR: Ivanov, V. S.

TITLE: Center line configuration of an axisymmetric jet fanning out in a wash flow

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 4, 1963, 103-111

TOPIC TAGS: free jet flow, turbulent jet flow, submerged jet flow, axisymmetric jet flow, jet flow center line, jet center line contour, wash flow, hydrodynamics

ABSTRACT: The author considers a free, turbulent, fanning-out jet of incompressible liquid, submerged in a wash flow of incompressible liquid of different density. He employs the principle of conservation of jet momentum in the direction of a tangent to its center line. Effect of reverse overflow in stagnant zones is ignored. Curvature of flow lines at cross-sections normal to the center line is assumed as coincident to the curvature of the jet's center line. Practical application of evolved formulas will require experimental verification of the coefficient of normal force, an experimentally determinable constant with magnitude on the order of unity. It is also shown that the effect of surface curvature of a free fanning-out jet of ideal liquid in the meridional plane can be ignored in approximate calculations for a narrow jet. Orig. art. has: 3 graphs, 18 formulas.
Card 1/2

ACCESSION NR: AP4009649

ASSOCIATION: none

SUBMITTED: 24Apr63   DATE ACQ: 12Feb64   ENCL: 00

SUB CODE: AI, PR   NO REF SOV: 002   OTHER: 000

Card 2/2

GAYKO, E.I., gornyy inzh.; IVANOV, V.S., gornyy inzh.

Studying by the method of seismic acoustics the effect of
the protective mining of overlying and underlying coal seams.
Ugol' 39 no.6:62-65 Je'64   (MIRA 17:7)

1. Trest Ordzhonikidzeugol'.

L 00578-66   EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1)

ACCESSION NR: AR5019363   UR/0124/65/000/007/B059/B059

SOURCE: Ref. zh. Mekhanika, Abs. 7B424

AUTHOR: Ivanov, V. S.

TITLE: Calculation of drag coefficient for a cone streamlined by a burbling flow after the Kirchhoff model

CITED SOURCE: Sb. Itog. Nauchn. konferentsiya Kazansk. un-ta za 1963 g. Sekts. matem., kibernet. i teoriya veroyatn., mekhan. Kazan', 1964, 109-111

TOPIC TAGS: cone drag coefficient, ideal incompressible fluid, zero gravity fluid, axisymmetric problem/Kirchhoff flow model, Garabed'yan method

TRANSLATION: The Garabed'yan method is used to solve an axisymmetric problem concerning a jet flow of an ideal incompressible fluid with zero gravity around a cone. The stream function ψ satisfies the equation

$$\frac{\partial^2 \psi}{\partial x^2} + \frac{\partial^2 \psi}{\partial y^2} - \frac{s}{y}\frac{\partial \psi}{\partial y} = 0$$

where $\psi = 0$ along the solid wall, $(1/y\mathcal{E})(d\psi/dn)=1$ along the free surface. Parameter $\mathcal{E}$

Card   1/2

L 00578-66

ACCESSION NR: AR5019363

equals zero for a plane flow, while for an axisymmetric flow it equals 1. Drag coefficient $C_x(\varepsilon)$ is approximated by a square trinomial of ε. Values $C_x(-1)$, $C_x(0)$, and $C'_x(0)$ are used in defining coefficients of the square trinomial. It is established that $C_x(-1)=1$. Magnitude $C'_x(0)$ is determined from the solution to the plane problem. Its definition represents the basic difficulty in solving the problem. Following the Garabed'yan approach, the author engages in lengthy calculations to find $C'_x(0)$ for the case in which the cone's generatrix forms a $\pi/4$ angle with the axis of symmetry. M. I. Gurevich

SUB CODE: ME   ENCL: 00

Card 2/2

MILOV, A.P.; PECHERSKIY, D.M.; IVANOV, V.S.

Geological characteristics and magnetic properties of the Velitkenayskiy
granitoid massif. Trudy SVKNII no.9 170-180 '64.   (MIRA 18:9)

IVANOV, V.S., inzh.-kapitan 3-go ranga; ANTONOV, N.G., inzh.-kapitan 3-go ranga

Overloading of ship nuclear reactors. Mor. sbor. 48 no.12:62-68
D '64.   (MIRA 18:2)

L 1393-66   EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1)

ACCESSION NR: AP5021723   UR/0173/65/000/004/0171/0176

AUTHOR: Ivanov, V. S. (Kazan)

TITLE: Contraction coefficient of a jet emanating from an infinite conical funnel

SOURCE: AN SSSR. Izvestiya. Mekhanika, no. 4, 1965, 171-176

TOPIC TAGS: ideal flow, ideal fluid, free jet, approximation method, complex variable

ABSTRACT: The method of P. R. Garabedian (Calculation of axially symmetric cavities and jets. Pacific Journal of Mathematics, 1956, vol. 6, No. 4) is used to study the flow of an axisymmetric jet from an infinite conical funnel. The liquid is assumed to be ideal and irrotational. The various coordinates of the problem are shown in Fig. 1 on the Enclosure where Γ_1 is the solid boundary and Γ_2 is the free surface. The Garabedian method consists of determining the contraction coefficient in an $E + 2$ dimensional space by

$$K(\varepsilon) = X^{1+\varepsilon}(\varepsilon) / Y^{1+\varepsilon}(\varepsilon) ,$$

For the present problem the two velocity components are expressed by

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L 1393-66
ACCESSION NR: AP5021723

$$v_x = \frac{1}{y^2} \frac{\partial \psi}{\partial y}, \qquad v_y = -\frac{1}{y^2} \frac{\partial \psi}{\partial x}$$

where the stream function is calculated to be

$$\psi'(x, y; \varepsilon) = \frac{\bar{X}^{1+\varepsilon}}{1+\varepsilon} \frac{J(\theta')}{J(^{1}/_{2}\pi + \theta')}, \qquad J(\theta') = \int_{^{1}/_{2}\pi}^{\theta'} \cos^{\varepsilon}(\theta_0 - \theta') d\theta'$$

Up to a first approximation the ratio X/Y is calculated in the limit of $\varepsilon = -1$ and $\varepsilon = \infty$, and the contraction coefficient in the limit of $\varepsilon = 0$. Using the complex plane, the value of K(0) is given by 0.74671. To determine X/Y as a three-term quadratic, the next step is to calculate the derivative $\partial Y / \partial \varepsilon$. Once more, using the complex plane, this yields $\frac{\partial Y}{\partial \varepsilon} = -0.31021$, and the expression for the

ratio X/Y becomes $\frac{X}{Y} = K(0) - 2K^2(0)\frac{\partial Y}{\partial \varepsilon}\delta + \left[1 - K(0) + 2K^2(0)\frac{\partial Y}{\partial \varepsilon}\right]\delta^2, \left(\delta = \frac{\varepsilon}{\varepsilon + 2}\right)$.

For the axisymmetric case, where $\varepsilon = 1$, this ratio becomes 0.85173. "In conclusion the author expresses his gratitude to his colleague Kh. Valishova at the computer center of Kazan University for doing the numerical calculations on the computer." Orig. art. has: 34 equations and 2 figures.
ASSOCIATION: none
SUBMITTED: 17Apr63   ENCL: 01   SUB CODE: ME
Card 2/3   NO REF SOV: 001   OTHER: 001

Fig. 1.

L 1420-66   EWT(1)/EWA(h)

ACCESSION NR: AP5021350

UR/0120/65/000/004/0145/0148

621.378.325

AUTHOR: Kopylovskiy, B. D.; Ivanov, V. S.

TITLE: Pulse circuits for driving semiconductor lasers

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 145-148

TOPIC TAGS: pulse generator, transistorized generator, pulsed illumination

ABSTRACT: A transistorized pulse generator used for driving semiconductor lasers which require threshold currents for stimulated emission of the order of 10—30 amp is described. The schematic of a pulse generator satisfying these requirements is shown in Fig. 1 of Enclosure. It consists of a blocking oscillator circuit with the output-frequency repetition rate variable from 50 to 400 cps, an emitter follower stage, and a parallel combination of four P602 power transistors operating in the common collector mode. The generator is capable of delivering a 17-amp pulse into a 1.0 ohm load. Pulse rise time is 0.1 μsec; fall time is 0.5 μsec; pulse duration is 3 μsec. An auxiliary circuit for measuring the generated currents is included. It consists of a pulse transformer connected in series with the load. The secondary winding of the transformer is shunted by 91 ohms. A sharply defined dependence of

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ACCESSION NR: AP5021350

the load current on the load impedance for constant outputs makes it possible to
measure the load impedances and, indirectly, the efficiencies of the optical
generators. Another pulse generator capable of delivering 150-amp pulses to a
0.3-ohm load with a pulse rise time of 5×10^{-8} sec is reported but not described.
Orig. art. has: 7 figures and 2 formulas. [BD]

ASSOCIATION: Fizicheskiy institut AN SSSR, Moscow (Physics Institute, AN SSSR)

SUBMITTED: 26May64   ENCL: 01   SUB CODE: EC

NO REF SOV: 002   OTHER: 000   ATD PRESS: 4097

Card 2/3
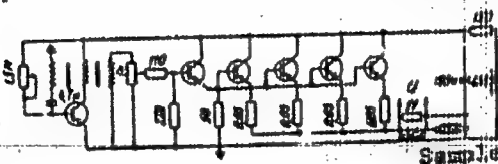
L 1420-66
ACCESSION NR: AP5021350

ENCLOSURE: 01

Fig. 1. Pulse generator

Card 3/3 DP

Catalytic transformation of alcohols into hydrocarbons of divinyl series. XIX. 1,3-Hexadiene in products of transformation of mixtures of ethyl and butyl alcohols. Yu. A. Gorin, N. G. Belen'kaya, V. S. Ivanov, and A. P. Karinenko (State Univ., Leningrad). *Zhur. Obshchel Khim.* 25, 1940(1955); cf. *C.A.* 41, 2367, 50, 1624.—Passage of 1:1 and 1:2 mixts. of EtOH and BuOH at 380° over the Lebedev catalyst (*C.A.* 28, 4062°) gave 2,4-hexadiene and 1,3-hexadiene in a 3:1 ratio. The latter was identified by its const. of its tetrabromide, and by hydrogenation. The conjugation was proved by formation of polymeric mixts. with SO₂, and formation of adducts with maleic anhydride and naphthoquinone. The presence of 1,3-isomer is shown by the formation of C₆H₁₀ hydrocarbons among the products of the long-time pretreatment devised by Lebedev.

G. M. Kosolapoff

AMIRKHANOV, Kh.I.; BRANDT, S.B.; BARTNITSKIY, Ye.N.; ANOKHINA, L.K.;
IVANOV, V.S.

Diffusion of the radiogenic argon in micas. Trudy Geol.inst.
Dag.fil. AN SSSR 1:188-193 '57.   (MIRA 14:9)
           (Diffusion) (Argon) (Mica)

AMIRKHANOV, Kh.I.; BRANDT, S.B.; BARTNITSKIY, Ye.N.; GURVICH, V.S.;
        GASANOV, S.A.; IVANOV, V.S.

        Thermal stability of radiogenic argon in the dispersion micas.
        Trudy Geol.inst.Dag.fil. AN SSSR 1:194-199 '57.   (MIRA 14:9)
                                (Argon) (Mica)

I IVANOV, V. S.

AUTHORS: Sinayskiy, G. M., Ratner, T. V., Makarova, V. P.,   79-11-4/56
            Gorin, Yu. A., Ivanov, V. S., Alferova, L. V.

TITLE: An Investigation of the Composition of the Hydrocarbons C_6 - the
            By-Products of the Catalytic Synthesis of Divinyl From Alcohol
            (Izucheniye sostava uglevodorodov C_6 - pobochnykh produktov katali-
            ticheskogo sinteza divinila iz spirta).

ABSTRACT: The investigation of ethyl alcohol in divinyl over a catalyst repre-
            sents a complicated catalytic process which is accompanied by a con-
            siderable amount of side reactions. In spite of the informative pa-
            pers by S. V. Lebedev and Ya. A. Gorin in the field of the catalytic
            formation of the combined dienes (CnH_2n-2) from alcohols, their bina-
            ry mixtures, and the mixtures of the alcohols with aldehydes and
            ketones with regard to the by-products, their composition is by far
            not sufficiently investigated. Of the insufficiently investigated
            by-products obtained on rectification of hydrocarbons the so-called
            hexylene-hexadiene fraction (boiling point 60-90°C) is the object of
            the authors' investigation. On further rectification the following
            were obtained beside other by-products. 1) hexadiene-1,3. 2) 3-

Card 1/2

An Investigation of the Composition of the Hydrocarbons C_6 - the   72-11-4/56
By-Products of the Catalytic Synthesis of Divinyl From Alcohol.

methylpentadiene 1,3.   3) cyclohexadiene-1,3. Thus the presence
of the combined dienes. 1) hexadiene-1,3. 2) 3-methylpentadiene-
1,3 and 3) cyclohexadiene-1,3 was determined in the hexylene-hexa=
diene fraction of the hydrocarbons, the by-products of the catalytic
synthesis of divinyl from alcohol according to Lebedev, and the way
of their formation was partially suggested.
There are 19 references, 9 of which are Slavic.

ASSOCIATION: The Laboratory of the Factory SK and the Leningrad State University
(Laboratoriya zavoda SK i Leningradskiy gosudarstvennyy universitet).

SUBMITTED: November 23, 1956.

AVAILABLE: Library of Congress.

1. Divinyl-Synthesis   2. Diene syntheses   3. Ethanol-Catalysis
4. Hydrocarbons-Analysis

Card 2/2

IVANOV, V. S.

AUTHORS: Gorin, Yu. A., Ivanov, V. S., Tereshenkova, V. K. 54-1-13/17

TITLE: Study of the Reaction of the Formation of Croton
           Aldehyde From Acetaldehyde   (Izucheniye reaktsii obrazo-
           vaniya krotonovogo al'degida iz uksusnogo)

ABSTRACT: The development of a simple method of obtained croton aldehyde
           is of practical importance for the synthesis of important
           products. It is formed as an intermediate product during the
           process of the synthesis of divinyl from alcohol by the
           method developed by S. V. Lebedev (refs. 1 and 2), and in the
           catalytical production of divinyl from the mixture ethyl
           alcohol - acetaldehyde (ref. 3). According to data published
           (refs. 4 and 5) the croton aldehyde is obtained from acet-
           aldehyde in two stages. According to M. Ya. Kagan, G. D.
           Lyubarskiy and S. F. Fedorov (ref. 5) the yield of croton
           aldehyde attained 64% of the initial substance. It may also
           be obtained as paraldehyde in the presence of sulphuric acid
Card 1/3   with a yield of 43 % (ref. 6). It may also be formed in a

Study of the Reaction of the Formation of Croton
Aldehyde From **Acetaldehyde**

single stage from the gaseous phase under the action of solid
catalyzers at increased temperature (refs. 7 - 13). As further
initial substances for the production of Croton aldehydes by
the catalytic method from the gaseous phase butanediol - 1
(250° ni - catalyzer, yield 50%) (ref. 14), transbutanediol -
1,4 (yield 60%) (ref. 15), erythrol (refs. 16 and 17) are
mentioned. These methods have, however, no practical importance.
In order to find out the possibilities of obtaining Croton
aldehyde immediately from acetaldehyde with a high yield the
authors carried out an approximative thermodynamical
calculation of the forming reaction of croton aldehyde. As
no exact thermodynamical characteristics are available for
the majority of organic compounds, the free energies of the
formation of aldehydes were calculated according to the
method developed by V. B. Fal'kovskiy (ref. 18). Similar
results were obtained also when calculating according to the
data supplied by Bremner - Touan (ref. 19). The values of
free energies were taken from the tables (ref. 20). Calculation
was carried out for the gaseous state at: 298, 500, 700 and
$900^\circ K$. The equilibrium constant of the reaction (K_p) was

Card 2/3   calculated according to the equation $RT\ln K_p = -\ $ (table 1)

Study of the Reaction of the Formation of Croton Aldehyde   54-1-13/17
From Acetaldehyde

The approximated thermodynamical calculation showed that the
increase of reaction temperature and a less diluted acet-
aldehyde must promote the formation of croton aldehyde. A
still greater increase of temperature and a still lesser
degree of dilution with water caused the forming of still
stronger condensation products of the acetaldehyde. Compared
to these products, croton aldehyde must be considered as an
intermediate product. Calculations carried out are confirmed
by experiments. There are 5 tables and 22 references, 9 of
which are Slavic.

SUBMITTED: October 25, 1957

AVAILABLE: Library of Congress

1. Acetaldehyde   2. Aldehyde croton-Analysis

Card 3/3

AUTHORS: Stolyarov, K. P., Ivanov, V. S.   75-13-2-17/27

TITLE: Photometric Determination of Crotonaldehyde in the
              Ultraviolet Spectrum Range
              (Fotometricheskoye opredeleniye krotonovogo al'degida v
              ul'trafioletovoy oblasti spektra)

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1958, Vol. 13, Nr 2,
              pp. 246-249 (USSR)

ABSTRACT: At present a satisfying quantitative determination method
              for crotonaldehyde in presence of other organic compounds,
              as for instance acetaldehyde, acetone, acetylene, acetic acid,
              does not exist as yet. Crotonaldehyde, however, is found in
              the mixture of compounds of this kind in the reaction products
              of some organic syntheses, e.g. in the industry of synthetic
              rubber. The methods for the determination of crotonaldehyde,
              described in publications (refs 1,2) are based upon the
              reactions of functional groups, which, however, are not
              specific for crotonaldehyde and therefore cannot be used for
              the determination in the presence of other unsaturated or of
              other carbonyl compounds. In this paper the authors try to
              work out a quantitative determination method which is specific
Card 1/4   for crotonaldehyde. Such a method is the photometric

Photometric Determination of Crotonaldehyde in the Ultraviolet   75-12-2-17/27
Spectrum Range

determination in the ultraviolet range of the spectrum
Solutions of crotonaldehyde with admixtures of various
quantities of acetaldehyde, acetic acid, acetone, and
acetylene in aqueous and anhydrous media were examined. From
a composition of the absorption curves of all these compounds
in the ultraviolet range can be seen, that at 265 mμ only
crotonaldehyde has an absorption band. This fact permits its
photometric determination without precedent separation of the
above mentioned organic compounds. First crotonaldehyde was
determined besides acetic acid, acetaldehyde, acetone, and
acetylene in aqueous solutions. Aqueous solutions of croton-
aldehyde obey Beer is law in a concentration range of from
0.1-12.8 per cent by volume. Therefore in this interval the
spectrophotometric determination is possible. Also the
influence of the admixed compounds and their maximum
concentrations, at which the quantitative photometric
determination of the crotonaldehyde is still possible,

Card 2/4   were investigated and are given in the work. In case of

Photometric Determination of Crotonaldehyde in the Ultraviolet   75-13-2-17/27
Spectrum Range

simultaneous presence of all mentioned components the maximum
permissible percentage of the separate admixtures is, in case
of the highest examined concentration of crotonaldehyde
(12,8 per cent by volume, for acetaldehyde and acetic acid
2 percent by volume each and for acetone 1 percent by volume.
Acetylene, even in high excess quantity does not disturb the
determination of crotonaldehyde.
The author investigated also conditions for the spectrophoto-
metric determination of crotonaldehyde in acetaldehyde,
acetone, and acetic acid as solvents. The optical density of
the solutions of crotonaldehyde in acetaldehyde and acetone
practically is the same and depends within a wide range
linearly on the concentration of the crotonaldehyde. This
allows the determination of crotonaldehyde in these both
non-aqueous solvents. The presence of acetic acid in acetal-
dehyde or in acetone much reduces the results of the
determination, the used solvents therefore must be free from
Card 3/4   acetic acid. Acetylene does not disturb the determination.

Photometric Determination of Cretonaldehyde in the Ultraviolet   75-13-2-17/27
Spectrum Range

There are 3 figures, 3 tables, and 15 references, 6 of which
are Soviet

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova
(Leningrad State University imeni A. A. Zhdanov)

SUBMITTED: October 30, 1956

1. Acetaldehyde--Analysis   2. Crotonaldehyde--Determination
3. Photometry   4. Ultraviolet spectrum

Card 4/4

GORI:, Yu.A.; IVANOV, V.S.; TERESHENKOVA, V.K.

Formation of croton aldehyde from acetaldehyde [with summary in
English]. Vest.LGU 13, no.4:134-140 '58.   (MIRA 11:4)
        (Acetaldehyde) (Crotonaldehyde)

LVANOV, V --

79-1-36/63

AUTHORS: Gorin, Yu. A. , Ivanov, V. S. , Bogdanova, Ye. S. , Pyayvi-
nen, E. A.

TITLE: Dienic Hydrocarbons From Unsaturated Alcohols (Diyenovyye ug-
levodorody iz nepredel'nykh spirtov) I. The Catalytic Dehydra-
tion of Crotyl Alcohol to Dinvinyl (I. Kataliticheskaya de-
gidratatsiya krotilovogo spirta v divinil)

PERIODICAL: Zhurnal Obshchey Khimii, 1958,Vol.28, Nr 1, pp.169-176(USSR)

ABSTRACT: The subject of the present paper was the dehydration of crotyl
alcohol according to S. V. Lebedev. The authors used various
components of a catalyst which permitted to model the process
in its last stage, the formation of divinyl from crotyl alco-
hol by dehydration. Moreover, it was their task to perform the
reactions under different conditions and with the best contact
action of catalysts which might supposedly lead to high yields.
First of all it was of practical interest to calculate the de-
hydration of crotyl alcohol thermodynamically, as nothing was
hitherto known on it with regard to free energy, entropy, mo-
dification of the heat capacity by temperature. For this rea-
son the calculations were only made approximately, based on

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79-1-36/63

Dienic Hydrocarbons From Unsaturated Alcohols. I. The Catalytic Dehydration
of Crotyl Alcohol to Divinyl

the additive thermodynamic functions for organic molecules.
The authors calculated the equilibrium constants of the de-
hydration reaction of crotyl alcohol in divinyl and accord-
ing to them also the yield of reaction products in a tempera-
ture range of 300 - 890°K. From the approximate thermodynamic
calculation follows that there exists not thermodynamic limi-
tations for the given reaction. At a higher temperature the
yield of divinyl increases. The best dehydration results were
obtained with Lebedev's catalyst - B_2. In the liquid products
of the catalysis over this catalyst the authors found a methyl-
vinyl carbinol which is produced by the isomerization of cro-
tyl alcohol. The investigation results correspond to the con-
ceptions existing on the formation scheme of divinyl from
ethyl alcohol according to Lebedev's method, according to
which this alcohol is an intermediate product of this process.
There are 3 tables, and 22 references, 6 of which are Slavic.

ASSOCIATION: **Leningrad State University**   (Leningradskiy gosudarstvennyy
                universitet)
SUBMITTED: December 30, 1956
AVAILABLE: Library of Congress
Card 2/2

1. Chemistry 2. Hydrocarbons 3. Alchols 4. Dehydration

SOV79-28-6-1/63

AUTHORS: Gorin, Yu. A., Ivanov, V. S., Khromnikova, Ye. K.

TITLE: Diene-Hydrocarbons of Unsaturated Alcohols (Diyenovyye uglevodorody iz nepredel'nykh spirtov) II. The Catalytic Dehydration of Tiglic Alcohol and of 2-Ethylhexene-2-ol-1 in Diene-Hydrocarbons (II. Kataliticheskaya degidratatsiya tiglinovogo spirta i 2-etilgeksen-2-ola-1 v diyenovyye uglevodorody)

ABSTRACT: Already earlier the authors found (Ref 1) that the use of the components of the catalyst according to S. V. Lebedev (B_2) and of the phosphate catalyst makes possible the synthesis of the divinyl of crotyl alcohol in a goodyield. It was of interest to investigate, whether these catalysts could also be used in the dehydration of other α,β-unsaturated alcohols in order to obtain hydrocarbons consisting of a system of double bonds. The catalytic dehydration of tiglic alcohol to isoprene by means of the above mentioned catalysts was investigated. The phosphate catalyst is already

Card 1/3

Diene-Hydrocarbons of Unsaturated Alcohols. II. The Catalytic Dehydration
of Tiglic Alcohol and of 2-Ethylhexene-2-ol-1 in Diene-Hydrocarbons

used in the industrial synthesis of the divinyl of butylene-
glycol-1,3. The isoprene yield with the above mentioned ca-
talysts is 67 %, calculated for the tiglic alcohol. The ca-
talytic dehydration of 2-ethylhexene-2-ol-1 was investigated
the same way. The yield of hydrocarbons (calculated for
C_8H_{14}) for either catalyst was also very good. The hydro-
carbons C_8H_{14} obtained by means of the one or the other are
identical and mainly consist of 2-ethylhexadiene-1,3 which
has to be regarded as initial product in the hydration. As
the catalytic dehydration of crotyl alcohol and of the
α,β-unsaturated alcohols having an alkyl group in the α-po-
sition, obviously takes the same course under the formation
of bound dienes, the assumption by Ostromyslenskiy, that in
the intermediate stage of the reaction compounds with an
allene group can occur, must be regarded as unfounded, as the
authors maintain. There are 2 tables and 29 references, 12
of which are Soviet.

Card 2/3

SOV/79-28-6-1/63

Diene-Hydrocarbons of Unsaturated Alcohols. II. The Catalytic Dehydration
of Tiglic Alcohol and of 2-Ethylhexene-2-ol-1 in Diene-Hydrocarbons

ASSOCIATION: Leningradskiy gosudarstvennyy universitet
               (Leningrad State University)

SUBMITTED: May 20, 1957

               1. Alcohols--Dehydration

Card 3/3

5 (3)
AUTHORS:

Gorin, Yu. A., Ivanov, V. S.,   SOV/79-29-4-13/77
Pushnova, T. G., Zlatogurskaya, V. V.

TITLE:
Diene Hydrocarbons From Unsaturated Alcohols (Diyenovyye uglevodorody iz nepredel'nykh spirtov). III.Catalytic Cleavage of Allyl Carbinol (III.Kataliticheskoye razlozheniye allilkarbinola)

ABSTRACT:
On the strength of previous investigations of the authors (Ref 9) and other chemists (Refs 1-8) it is shown in the present paper that under conditions under which an α, β-unsaturated alcohol (crotyl alcohol)   readily   splits off water and yielding divinyl with 85-88 mole%, the allyl carbinol primarily undergoes cleavage, thus yielding propylene and formaldehyde. The authors investigated the process of the catalytic transformation of allyl carbinol on some dehydrating components of the catalyst of S. V. Lebedev at 350° as well as on the silicagel-tantalum catalyst at 370°. Under these conditions divinyl is formed from allyl carbinol in small quantities only.

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It was found that on the dehydrating components of the cata-

Diene Hydrocarbons From Unsaturated Alcohols. III.Cata-   SOV/79-29-4-13/77
lytic Cleavage of Allyl Carbinol

lysts B and B_2 of Lebedev chiefly a cleavage of the allyl car-
binol takes place to give propylene and formaldehyde. The data
obtained do not support the assumption that the formation of
divinyl via the allyl carbinol is possible in the process of
Lebedev. In order to complete the above-mentioned data it must
be said that the transformation of butanediol-1.3 on the dehy-
drating component of the catalyst of Lebedev takes place under
the formation of a considerable quantity of propylene (Ref 15).
In the liquid cleavage products of butanediol -1.3 on the Lebe-
dev catalyst methyl alcohol was found (Ref 16). Comparing the
data obtained by Lebedev and those of the present paper it may
be assumed that butanediol -1.3   splits   off in the begin-
ning one molecule of water and is converted to allyl carbinol
which is cleft under the influence of the dehydrating component
to give propylene and formaldehyde. The latter is reduced to
methyl alcohol (Scheme). There are 1 table and 26 references,
17 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)
SUBMITTED: February 10, 1958
Card 2/2

IVANOV, V.S.; AFANS'YEV, I.D.

Diene hydrocarbons from unsaturated alcohols. Part 4:
Catalytic dehydration of 2-methyl-2-penten-1-ol. Zhur. ob. khim.
no.11:3826-3831 N'60.   (MIRA 13:11)

1. Leningradskiy gosudarstvennyy universitet.
                    (Pentenol)

IVANOV, V·S

82076

S/190/60/002/01/04/021
B004/B061

5.3830A

AUTHORS: Ivanov, V. S., Sokolova, M. A., Aver'yanov, S. V.,
Yevdokimov, V. F., Gurlyand, I. S

TITLE: Radiation Polymerization of Isoprene. I

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 1,
pp. 35-37

TEXT: The aim of this work was to obtain data on the action of the
conditions of irradiation with gamma rays of Co60 on the polymerization
of isoprene. Pure isoprene was irradiated in glass ampoules in an
experiment in the apparatus ГУТ-400 (GUT-400, 142 gram equivalent of
radium), in further tests in the apparatus K-1400 (K-1400. 1400 gram
equivalent of radium) at room temperature in a nitrogen atmosphere
The molecular weight of the polymers was determined viscometrically.
and the microstructure (containing 1,2-, 3,4-, and 1,4-bonds) by
infrared spectra (taken with a ИКС-6 (IKS-6) spectrometer). The
results are given in a Table. One polymer was obtained by the action of

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Radiation Polymerization of Isoprene. I. S/190/60/002/01/01/021
B004/B061
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gamma rays of Co^{60} whose yield is directly proportional to the
radiation dose, with small fluctuations of the radiation intensity.
The microstructure of the polymer in the temperature range 40 - 70°C
is independent of the dose and intensity of radiation, and of the
presence of a sensitizer (5 mole% CCl_4). The average molecular weight
of the polymer rises when the radiation intensity is decreased. The
authors thank G. S. Denisov for advice and help in taking the infrared
spectra. There are 1 table and 4 references. 4 US

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad
               State University)

SUBMITTED.   July 7, 1959

Card 2/2

IVANOV, V.S.; TSVETKOV, V.F.

Influence of paraldehyde on the photometric determination of
crotonaldehyde. Zhur.anal.khim. 15 no.2:245-247 Mr-Ap '60.
(MIRA 13:7)

1. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova.
(Paraldehyde)   (Crotonaldehyde)

IVANOV, V.S.; TERESHENKOVA, V.K.

Catalytic formation of crotonaldehyde. Part 2: Condensation of acetal-
dehyde over beryllium and calcium phosphates. Vest. LGU 15 no.16:134-
139 '60.   (MIRA 13:8)
          (Acetaldehyde)   (Crotonaldehyde)

S/079/60/030/011/022/026
B001/B055

AUTHORS: Ivanov, V. S. and Afanas'yev, I. D.

TITLE: Diolefins From Unsaturated Alcohols. IV. Catalytic Dehydra-
            tion of 2-Methyl 2-Penten-1-ol

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, No. 11, pp. 3826-3831

TEXT: 2-Methyl 2-penten-1-ol, among other alcohols, is used as initial
compound in the catalytic dehydration treated in Refs. 1 and 2, but is
described insufficiently in the chemical literature (Refs. 3-5). Data con-
cerning its dehydration have not been published at all. It was to be ex-
pected that the dehydration of this compound would lead to conjugated di-
olefins of the composition C_6H_{10}, i.e. 2-methyl 1,3-pentadiene (1) and
4-methyl 1,3-pentadiene (2):

$$CH_3-CH_2-CH=C-CH_2OH \xrightarrow{-H_2O} \begin{cases} CH_3-CH=CH-C=CH_2 \quad (1) \\ \qquad\qquad\qquad\quad CH_3 \\ CH_2=CH-CH=C-CH_3 \quad (2) \\ \qquad\qquad\qquad\quad CH_3 \end{cases}$$
$$\qquad\quad CH_3$$
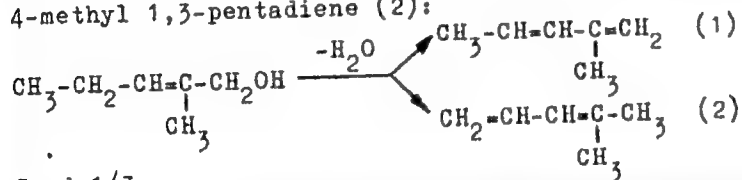
Card 1/3

Diolefins From Unsaturated Alcohols.
IV. Catalytic Dehydration of 2-Methyl
2-Penten-1-ol

S/079/60/030/011/022/026
B001/B055

As dehydration catalysts for this reaction the authors used phosphate
catalysts, i.e. type Ф (F), the catalyst used in the synthetic rubber
industry for the preparation of divinyl from 1,3-butanediol (Ref. 17),
and one of the dehydrating components of $Б_2$ (B_2), the catalyst by

S. V. Lebedev (Ref. 1). 2-Methyl 1,3-pentadiene was obtained as main de-
hydration product of 2-methyl 2-penten-1-ol. When the dehydrating component
B_2 was used as catalyst, an olefin (C_6H_{12}) having the same carbon skeleton
as the diolefin formed besides the latter. The formation of an olefin may
be explained by the transformations characteristic of Lebedev's catalyst.
A comparison of the results obtained in this work and those obtained in
transformation reactions of n-propyl alcohol under S. V. Lebedev's reaction
conditions confirm an assumption by Yu. A. Gorin. The latter assumed that
this transformation involves the intermediate formation of 2-methyl
2-penten-1-ol. The study of the catalytic dehydration of 2-methyl
2-penten-1-ol and previous experimental data concerning the dehydration of
α,β-unsaturated alcohols show that the scheme proposed by Ostromyslenskiy,

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Diolefins From Unsaturated Alcohols.
IV. Catalytic Dehydration of 2-Methyl
2-Penten-1-ol

S/0??/60/030/011/022/026
B001/B055

according to which the dehydration proceeds via an allene compound as
intermediate, is not in agreement with the facts. Besides, this scheme is
impossible from the structural viewpoint in the case of α-alkyl substituted
alcohols. This paper was read at the All-Union Conference on Organic
Catalysis held in Moscow on November 18, 1959. There are 2 tables and
22 references: 13 Soviet, 3 US, 2 British, 3 German, and 1 Belgian.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State
University)

SUBMITTED: October 27, 1959

Card 3/3

IVANOV, V.S.; MAKSIMOVA, N.M.

> Reversibility of the reaction of crotonization over the S.V.Lebedev
> catalyst. Vest LGU 16 no.22:151-153 '61.   (MIRA 14:11)
>   (Crotonaldehyde) (Acetaldehyde) (Catalysts)

IVANOV, V.S.; MAKSIMOVA, N.M.

Reversal of the crotonization of acetaldehyde over S.V. Lebedev's
catalyst. Zhur.ob.khim. 30 no.10:3171-3174 O '61. (MIRA 14:4)

1. Leningradskiy gosudarstvennyy universitet.
        (Acetaldehyde)   (Crotonaldehyde)

IVANOV, V.S.; YERMOLAYEVA, A.D.; SYROMYATNIKOV, K.A.

Device for the automatic determination of the carbamide content
in a solvent. Khim.i tekh.topl.i masel 7 no.9:46-50 S '62.
(MIRA 15:8)

1. Leningradskiy filial Spetsial'nogo konstruktorskogo byuro
avtomatizatsii neftepererabotki i neftekhimii.
        (Urea)   (Paraffin wax)

S/081/65/000/004/014/051
B166/B186

AUTHORS: Gorin, Yu. A., Ivanov, V. S.

TITLE: Explanation of the reaction of the formation of certain by-
              products in the process of catalytic divinyl synthesis by
              S. V. Lebedev's method

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1963, 221, abstract
              4Zh62 (In collection: Kataliz v vyssh. shkole. Tr. I Mezhvuz.
              soveshchaniya. no. 1, part 2. M., Mosk. un-t, 1962, 258-274)

TEXT: The authors present diagrams for the formation of CH_3OH, allyl
carbinol, hexadiene-1,3,3-methylpentadi-1,3-ene and cyclohexadi-1,3-ene,
which are obtained as by-products from the contact synthesis of divinyl from
C_2H_5OH by the method of S. V. Lebedev. [Abstracter's note: Complete trans-
lation.]

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S/190/63/005/004/020/020
B101/B220

AUTHORS: Ivanov, V. S., Sukhikh, T. A., Breger, A. Kh., Osipov, V. B.,
             Gol'din, V. A.

TITLE: Radiation polymerization of maleic N-phenyl maleinimide in
             solid state

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 4, 1963, 628

TEXT: Maleic N-phenylimide, m.p. 89 - 90°C, was polymerized by Co^{60} gamma
irradiation. The irradiation yield was ~1000 molecules per 100 ev. At
87.5°C, 0.65 Mr/hr and a dose of 2.2 Mr, 32.5 % of polymer was obtained.
At 20°C this yield decreased to 4.5 - 6.5 %. More complete polymerization
(79.5 %) was achieved by further heating to 100°C of the ampoules that had
been irradiated at 82°C. With 2 - 5 Mr light yellow crystalline powders
were obtained, with 10 Mr brown amorphous substances. Dependent on the
conditions of production, the polymers are heat-resistant up to 250 - 330°,
soluble in dimethyl formamide and CS$_2$, insoluble in H$_2$O, acetone, CCl$_4$,
benzene, toluene, heptane and cyclohexane. The IR spectra of the polymers
showed bands of the phenyl ring, the carbonyl group and the C-N bond.

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S/190/63/005/004/020/020
B101/B220

Radiation polymerization of ...

From a comparison of the IR spectra of monomer and polymer it was con-
cluded that in the course of polymerization the C=C bonds are opened.

SUBMITTED: July 26, 1962

Card 2/2

AUTHORS: Ivanov, V. S., Medvedev, Yu. V.; Vasilenko, G. B.; Krutsilin, A. S. (?);
Osipov, V. B.; Gol'din, V. A.

TITLE: Studies in radiation polymerization. 2. The radiation polymerization of piperylene

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 5, no. 8, 1963, 1255-1262

TOPIC TAGS: radiation polymerization, piperylene, radiolysis, Co60, carbon tetrachloride, argon, krypton

ABSTRACT: Samples of piperylene monomer were placed in sealed glass ampules in an atmosphere of nitrogen, argon, or krypton, and subjected to gamma-irradiation by means of a Co60 installation. Following absorption of doses from 1 to 160 Mr, the ampules were opened, the gases subjected to chromatographic study. The obtained polymer was analyzed for viscosity and degree of unsaturation, and was studied by infrared spectroscopy. The gaseous products of radiolysis contained hydrogen, methane, ethylene, acetylene, divinyl and 96.5% piperylene. The degree of unsaturation of the polymer amounted to 84 and 57% for samples receiving 60 and 160 Mr respectively. It was found that the yield of the polymer increased with the

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L 17094-63

ACCESSION NR: AP3004711   2

irradiation dose and that the presence of nitrogen, argon, and krypton exerted a
sensitizing effect on radiation polymerization. Infrared spectroscopy revealed
that the structure of the polypiperylene consisted mainly of 1,4-trans chains,
1,2-trans chains, or of their combination, while the amount of cis-configurations
had decreased trifold. It is concluded that in radiolysis the main line of
cleavage of the piperylene molecule consists in the severance of the single bond
between the fourth and fifth carbon atoms. The authors are deeply grateful to
N. I. Leonova for assistance in infrared spectroscopy. Orig. art. has: 1 table,
2 charts, and 14 formulas.

ASSOCIATION: Leningradskiy gosudarstvennyuy universitet fiziko-khimicheskiy
institut im. L. Ya. Karpova (Leningrad State University, Physical-Chemical
Institute)

SUBMITTED: 12Feb62   DATE ACQ: 28Aug63   ENCL: 00

SUB CODE: CH   NO REF SOV: 008   OTHER: 023

Card 2/2

IVANOV, V.S.; MEDVEDEV, Yu.V.; VASILENKO, V.F.; BREGER, A.Kh.; OSIPOV, V.B.; GOL'DIN, V.A.

Studies in radiation polymerization. Part 2: Radiation polymerization of piperylene. Vysokom.soed. 5 no.8:1255-1262 Ag '63.
(MIRA 16:9)

1. Leningradskiy gosudarstvennyy universitet i Fiziko-khimicheskiy institut imeni L.Ya.Karpova.
(Piperylene) (Polymerization) (Radiation)

IVANOV, V.S.(Leningrad); PLAKHOV, D.D. (Leningrad)

Vibrations of a circular ring carrying a concentrated mass.   (MIRA 16:10)
Inzh. zhur. 3 no.3:482-489 '63.

(Elastic plates and shells—Vibration)

I. 38539-66   EWT(m)/EWP(t)/ETI   IJP(c)   WW/JD/JG/GD

ACC NR: AT6014758   SOURCE CODE: UR/0000/65/000/000/0101/0109

AUTHORS: Karasik, V. R.; Kurganov, G. B.; Yershov, V. G.; Shebalin, I. Yu.;
Kopylovskiy, B. L.; Ivanov, V. S.

ORG: none

TITLE: Superconducting solenoids of niobium alloys with zirconium

SOURCE: Soveshchaniye po metallovedeniyu i metallofizike sverkhprovodnikov. 1st,
1964. Metallovedeniye i metallofizika sverkhprovodnikov (Metallography and physics
of metals in superconductors); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 101-
109

TOPIC TAGS: superconductivity, superconducting alloy, niobium alloy, zirconim
containing alloy, solenoid / S-60 solenoid, S-50 solenoid, B-3 solenoid, B-solenoid

ABSTRACT: Superconducting solenoids for creating high magnetic fields are discussed.
A brief historical review is presented of the development of superconducting sole-
noids and of the use of niobium-zirconium alloys. Three equivalent circuits for a
superconducting solenoid connected with a power supply are presented and discussed.
Some of the physical problems of superconducting niobium-zirconium alloy solenoids
and the means of overcoming them are given. The construction and properties of four
superconducting solenoids (S-60, S-50, B-3, and B-1) are described. The solenoids
are wound with 0.25-mm diameter wire of 75% Nb—25% Zr alloy which is

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ACC NR: AT6014758   /0

electrolytically coated with a 20 μ thick layer of copper. The fields attainable with those solenoids range up to 46 koe. Two of the solenoids (S-50 and B-1) were used together to produce a field of 51½ koe. The schematic for a 6-V transistorized power supply, which is current-regulated in the range 0.2—75 a, is given. The authors thank B. M. Vul, corresponding member AN SSSR, for valuable advice; Ye. M. Savitskiy, V. V. Baron, M. B. Golant, I. A. Baranov, and R. S. Shmulevich for supplying the wire for fabricating the solenoids; G. T. Nikitina, V. I. Sarychev, G. I. Agapov, and I. A. Bocharov for help in the work. Orig. art. has: 4 equations, 3 tables, and 3 diagrams.

SUB CODE: 20/ SUBM DATE: 23Dec65/ ORIG REF: 004/ OTH REF: 011

Card 2/2

IVANOV, V.S.; MEDVEDEV, Yu.V.; KHOU GUY [Hou Kuei]; TARAN, A.A.

Radiolysis of some conjugated dienes. Zhur. ob. khim. 34 no.11s
3853 N '64   (MIRA 18:1)

1. Leningradskiy gosudarstvennyy universitet.

9 figures and 2 formulas.

ASSOCIATION: Fizicheskiy Institut AN SSSR (Physics Institute, AN SSSR)

S/0190/64/006/005/0782/0786

ACCESSION NR: AP4037271

AUTHORS: Ivanov, V. S.; Sukhikh, T. A.; Medvedev, Yu. V.; Breger, A. Kh.;
Osipov, V. B.; Gol'din, V. A.

TITLE: Studies in radiation polymerization. 3. Radiation polymerization of
piperylene in channel complexes of urea

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 5, 1964, 782-786

TOPIC TAGS: piperylene polymerization, urea clathrate complex, endocytic
clathrate component, channel polymerization, tube structure, trans piperylene
polymer

ABSTRACT: Urea clathrate complexes with piperylene as endocytic component were
prepared by mixing 1 gm urea with 0.001— 0.1 ml methanol, cooling in a glass
ampule to -78C, and adding 1-3.7 moles of cooled piperylene per mole of urea. The
polymerization of piperylene was achieved by γ-irradiation with Co^{60}. Parallel
studies on block-polymerization of piperylene were conducted at -78C with irradia-
tion doses of 30 Mrad. After 2 to 6 weeks at -78 to -45C, the residual piperylene
monomer was removed by means of a vacuum pump. The urea was then dissolved in 10%
acetone, leaving polymers whose specific viscosity, degree of unsaturation, and

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Card 2/2

showed, besides absorption band at 1725 cm^{-1} corresponding to a carbonyl group and a band at 1180 cm^{-1} corresponding

forming the experiments on γ-irradiation." Orig. art. has: 3 tables and 2 figures.

SUB CODE: OC, NP

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